

What is claimed is:

1. A process for manufacturing plastic sanitaryware having a shell and resinous backing material comprising the steps of mounting the shell in a production fixture, the shell having finished and unfinished surfaces, aligning a female mold with
5 the shell, said mold having a wall that is spaced from said unfinished surface of the shell a distance equal to a predetermined thickness of the shell and the resinous backing material, said mold wall defining an opening there between, activating said unfinished surface of the shell to bond the shell to the resinous backing material, depositing the resinous backing material within said female mold to fill said space
10 between said female mold wall and said activated unfinished surface of the shell, discharging air from said female mold through said mold opening to reduce porosity within the resinous backing material and suppressing styrene emission from the resinous backing material.
2. A process according to claim 1 further comprising the step of insulating
15 said female mold in order to cure the resinous backing material more completely.
3. A process according to claim 1 further comprising the step of placing a lid over said mold opening in order to suppress said styrene emissions.
4. A process according to claim 1 comprising the further steps of spacing
said female mold vertically above the shell, and lowering said female mold to the shell
20 in order to establish said space between said unfinished surface of the shell and said female mold wall.

- 100-200-300-400-500-600-700-800-900-1000
5. A process according to Claim 1 further comprising the step of vibrating the resinous backing material to promote resin flow and dissipate entrapped air.
 6. A process according to claim 4 further comprising the step of pouring the resinous backing material into said space between said female mold wall and said unfinished surface of the shell.
 7. A process according to claim 4 further comprising the step of pumping the resinous backing material into said space between said female mold wall and said unfinished surface of the shell.
 8. A process for manufacturing a female mold for engagement with a plastic shell in the shape of an item of sanitaryware comprising the steps of forming the interior surface of a layer of wood, in the shape of the item of sanitaryware, applying a primer to said layer of wood, depositing a layer of wax on said primer, coating said wax layer with a tooling lubricant, establishing a predetermined thickness for said layers of wood, primer, wax and tooling lubricant, depositing a mixture of polyester resin and fiberglass on said tooling lubricant, placing another wooden layer on the surface of said polyester resin and fiberglass, applying an adhesive to said another wooden layer to join said another wooden layer to said polyester resin and fiberglass, and demolding said another wooden layer and said polyester resin and fiberglass from said layers of wood, primer, wax and tooling lubricant whereby said another wooden layer, adhesive, polyester resin and fiberglass forms the female mold.

9. A process according to claim 7 further comprising the step of adding a layer to the female mold chosen from the group of Teflon, nickel plate, ceramic finish and stainless steel.

10. A female mold for manufacturing an item of plastic sanitaryware having a
5 shell in the shape of the sanitaryware item comprising a layer of polyester resin and fiberglass having inner and outer surfaces, said inner surface establishing a predetermined separation between the female mold and the plastic shell, a layer of wood adhered to said polyester resin and fiberglass layer and a further layer chosen from the group of Teflon, nickel plate, ceramic finish or stainless steel.

11. A female mold according to claim 9 further comprising balsa wood in said
layer of wood.

12. A female mold according to claim 9 further comprising a gasket on the perimeter of the female mold.

13. A production fixture for manufacturing plastic sanitaryware having a shell
15 with an unfinished surface comprising a pair of spaced supports having respective ends, a base having means for mounting the shell thereon, said base being between said supports and proximate to said support ends, a further support spaced from said base, a first pair of actuators, each of said actuators being mounted on said further support for selective individual reciprocating movement toward and away from said
20 base, a stage disposed between said supports for movement toward and away from said base, said stage having at least one opening formed therein in alignment with said shell mounting means, a second pair of actuators each of said second actuator pair being mounted on said further support and coupled to said stage for movement of said

stage toward and away from said base, and a pair of gas impermeable lids, each of said lids coupled to a respective one of said actuators in said first actuator pair for selective individual movement toward and away from said stage.

14. A production fixture according to Claim 13 further comprising a vibrator
5 coupled to the fixture for vibrating at least a portion of the production
fixture.